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Designing a Koch-Type Wire Antenna by Regression Analysis

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Abstract

© 2018 IEEE. A family of symmetrical wire dipoles having the geometry of the Koch-type prefractal is considered. A regression analysis for the electrodynamic characteristics and geometric parameters of the antennas is performed. Regression models of the base frequency for dipoles having different scales are obtained. A subfamily of antennas with a resonance at frequencies of 2.4-2.5 GHz is identified via regression models. Further analysis of the reflection coefficient and the bandwidth of the antennas from the given family made it possible to select the most matching antennas for operation in the selected Wi-Fi band.

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